

CLAIMS

WHAT IS CLAIMED IS:

1. An adjustable gripping tool for engaging a workpiece to impart work thereto the tool comprising:
 - a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;
 - the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;
 - the at least one gripping element each include a body portion adapted for engaging the workpiece, an arm portion configured to engage one of the guide and a force transfer element contiguous with the arm portion;
 - the second element including an actuation portion having a second opening concentric with the first opening and a plurality of slots disposed adjacent the second opening, each of the slots having a first section configured to engage one of the force transfer elements, such that movement of the second element with respect to the first element simultaneously actuates the first sections to contact and move the

force transfer elements thereby actuating the gripping elements along the guides.

2. The gripping tool as recited in claim 1, further including a lock mechanism disposed on the first element operable to secure the first element and second element in a desired angular orientation.
3. The gripping tool as recited in claim 1, wherein the first element includes a pair of elements disposed on opposing sides of the second element.
4. The gripping tool as recited in claim 3, wherein a spacer interconnects the elements to define a pocket such that a spring disposed within the pocket contacts the second element so that the second element is normally disposed in an open position.
5. The gripping tool as recited in claim 1, wherein the arm portion of the gripping elements further includes a pair of arms disposed at opposite ends of the body portion such that the gripping elements are substantially U-shaped.
6. The gripping tool as recited in claim 1, wherein the first element further includes a plurality of studs such that one stud is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.

7. The gripping tool as recited in claim 6, wherein each of the slots further includes a second section extending from the first section, such that one of the studs engages one of the second sections so that during relative angular movement between the first element and the second element the first and second openings remain concentrically aligned.
8. The gripping tool as recited in claim 7, wherein the first and second sections are divergent.
9. The gripping tool as recited in claim 1, wherein the gripping portion and actuation portion circumferentially engage the workpiece.
10. The gripping tool as recited in claim 1, wherein the gripping portion and actuation portion are configured penannular.
11. The gripping tool as recited in claim 1, wherein the gripping portion includes a plurality of gripping elements.
12. The gripping tool as recited in claim 3, wherein a lock mechanism is connected to the first element between the elements such that movement of the lock mechanism from a first operative position to a second operative position secures the first element and second element in a desired angular orientation.

13. The gripping tool as recited in claim 1, wherein the gripping elements performing one function may be replaced with gripping elements performing a different function.
14. The gripping tool as recited in claim 1, wherein the gripping elements score and cut.
15. The gripping tool as recited in claim 1, wherein movement of the at least one gripping element is linear.
16. The gripping tool recited in claim 1, wherein movement of the at least one gripping element is curvilinear.
17. The gripping tool recited in claim 1, wherein the at least one guide includes a plurality of guides.
18. The gripping tool as recited in claim 1, wherein each at least one guide extends radially.
19. The gripping tool as recited in claim 1, wherein each at least one guide extends along a curvilinear path.

20. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

a first element and a second element connected for relative angular movement;

the second element including an actuation portion having a plurality of slots, each of the slots including a first section and a second section wherein the first and second sections each define divergent paths;

the first element including a gripping portion having a plurality of gripping elements; each gripping element having a force transfer element contiguous therewith and at least one aligning element, wherein one of the aligning elements is disposed between a pair of gripping elements;

wherein one of the force transfer elements engages one first section and one of the aligning elements engages one second section such that movement of the second element relative to the first element results in the first sections contacting each of the aligning elements to actuate the gripping elements and the second sections contacting the aligning elements to maintain orientation of first element with respect to second element.

21. The gripping tool recited in claim 20, wherein the first element includes a first opening and the second element includes a second opening which are concentrically aligned during relative movement.
22. The gripping tool recited in claim 20, wherein a lock mechanism is disposed on the first element operative to secure the first element and second element in a desired angular orientation.
23. The gripping tool recited in claim 20, wherein the gripping portion and actuation portion circumferentially engage the workpiece.
24. The gripping tool recited in claim 20, wherein the gripping portion and actuation portion are configured penannular.
25. The gripping tool as recited in claim 20, wherein the gripping elements performing one function may be replaced with gripping elements performing a different function.
26. The gripping tool as recited in claim 20, wherein the gripping element can score and cut.